Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1 and 2 (Canceled).

3. (Previously presented) A method of performing channel estimation, the method comprising:

receiving a time domain signal $\underline{r}$;

multiplying, element-to-element, the sequences $\underline{m}$ and $\underline{r}$ by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denoting the resulting sequences as $\underline{m}_W$ and $\underline{r}_W$ respectively, where $\underline{m}$ is a midamble sequence; and

creating a chirp sequence $\underline{v}$ based on the chirp waveform.

4. (Original) The method of claim 3 wherein the chirp waveform is $W^{n^2/2}$ for n=0,1,2,...,P-1 where P = 456 for burst types 1/3 or P = 192 for burst type 2, and $W = e^{-j\frac{2\pi}{P}}$

5. (Original) The method of claim 4 wherein the chirp sequence $\underline{v} = W^{-(n-P+1)^2/2}$ for n= 0,1,2,...,2P-2.

Claims 6 and 7 (Canceled).

8. (Previously presented) A receiver for performing channel estimation, the receiver configured to:

receive a time domain signal $\underline{r}$ and multiply, element-to-element, the sequences $\underline{m}$ and $\underline{r}$ by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denoting the resulting sequences as $\underline{m}_W$ and $\underline{r}_W$ respectively, where $\underline{m}$ is a midamble sequence; and

create a chirp sequence $\underline{v}$ based on the chirp waveform.

9. (Previously presented) The receiver of claim 8 wherein the chirp waveform is $W^{n^2/2}$ for n=0,1,2,...,P-1 where P = 456 for burst types 1/3 or P = 192 for burst type 2, and $W = e^{-j\frac{2\pi}{P}}$.

10. (Previously presented) The receiver of claim 9 wherein the chirp sequence $\underline{v} = W^{-(n-P+1)^2/2}$ for n=0,1,2,...,2P-2.

Claims 11 and 12 (Canceled).

13. (Previously presented) A wireless transmit/receive unit (WTRU) for performing channel estimation, the WTRU configured to:

receive a time domain signal $\underline{r}$ and multiply, element-to-element, the sequences $\underline{m}$ and $\underline{r}$ by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denote the resulting sequences as $\underline{m}_W$ and $\underline{r}_W$ respectively, where $\underline{m}$ is a midamble sequence; and

create a chirp sequence $\underline{v}$ based on the chirp waveform.

14. (Original) The WTRU of claim 13 wherein the chirp waveform is $W^{n^2/2}$ for n=0,1,2,...,P-1 where P = 456 for burst types 1/3 or P = 192 for burst type 2, and $W = e^{-j\frac{2\pi}{P}}$.

15. (Original) The WTRU of claim 14 wherein the chirp sequence $\underline{v} = W^{-(n-P+1)^2/2}$ for n=0,1,2,...,2P-2.

Claims 16 and 17 (Canceled).

18. (Previously presented) A base station (BS) for performing channel estimation, the BS configured to:

receive a time domain signal $\underline{r}$ and multiply, element-to-element, the sequences $\underline{m}$ and $\underline{r}$ by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denote the resulting sequences as $\underline{m}_W$ and $\underline{r}_W$ respectively, where $\underline{m}$ is a midamble sequence; and

create a chirp sequence $\underline{v}$ based on the chirp waveform.

19. (Original) The BS of claim 18 wherein the chirp waveform is $W^{n^2/2}$ for n = 0, 1, 2,...,P-1 where P = 456 for burst types 1/3 or P = 192 for burst type 2, and $W = e^{-j\frac{2\pi}{P}}$.

20. (Original) The BS of claim 19 wherein the chirp sequence $\underline{v} = W^{-(n-P+1)^2/2}$ for n = 0, 1, 2, ...,2P-2.

Claims 21-33 (Canceled).